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Kolarcik, P.; Geckova, A. Madarasova; Reijneveld, S. A.; van Dijk, J. P.

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ORIGINAL ARTICLE

Social support, hopelessness and life satisfaction among Roma and non-Roma adolescents in Slovakia

P. Kolarcik · A. Madarasova Geckova · S. A. Reijneveld · J. P. van Dijk

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Abstract
Objectives Evidence on the psychosocial determinants of health among Roma adolescents is completely lacking. Our aim was to compare social support, life satisfaction and hopelessness of Slovak Roma and non-Roma adolescents and to assess the impact of parental education and social desirability on these differences.
Methods We conducted a cross-sectional study among Roma from settlements in the eastern part of Slovakia ($N = 330$; mean age = 14.50; interview) and non-Roma adolescents ($N = 722$; mean age = 14.86; questionnaire). The effect of ethnicity on social support, life satisfaction and hopelessness was analysed using linear regression, adjusted for gender, parental education and social desirability.
Results Roma adolescents reported higher social support from parents, higher life satisfaction and higher hopelessness rates. Parental education explained part of the ethnic differences, as did social desirability. After adjustment for the aforementioned factors, differences by ethnicity remained statistically significant.
Conclusions Roma adolescents experience higher levels of social support, life satisfaction and hopelessness than non-Roma adolescents. Reduction of hopelessness feelings while maintaining levels of social support and life satisfaction among Roma adolescents should be a topic for both intervention and further research.

Keywords Roma/Gypsy · Ethnicity · Social support · Life satisfaction · Hopelessness

P. Kolarcik · A. M. Geckova · J. P. van Dijk
Graduate School Kosice Institute for Society and Health, P.J. Safarik University, Košice, Slovakia

P. Kolarcik (✉) · A. M. Geckova
Department of Health Psychology, Medical Faculty, Institute of Public Health, P.J. Safarik University, Trieda SNP 1, 040 11 Košice, Slovakia
e-mail: peter.kolarcik@upjs.sk

S. A. Reijneveld · J. P. van Dijk
Department of Social Medicine, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands

P. Kolarcik
Olomouc University Social Health Institute, Palacký University Olomouc, Sts. Cyril and Methodius Faculty of Theology, Department of Christian Education, Univerzitní 22, 771 11 Olomouc, Czech Republic

Introduction

A poorer health of Roma compared to non-Roma or the general population has been reported in several studies (Filadelfiová et al. 2007; Hajioff and McKee 2000; Zeman et al. 2003). People with a low socioeconomic status (SES) in general perceive their health as poorer, and this association has been shown to be mediated, except specific culture and life-style, by a number of psychosocial factors related to their subjective well-being such as social support, depression, hopelessness and life satisfaction (Proctor et al. 2009). Roma are for the most part very disadvantaged (European Union Agency for Fundamental Rights 2010), and their poorer perceived health might thus be due to the same mechanism. In terms of factors in the causal path from SE deprivation to poor perceived health, adult Roma are depressed and anxious more frequently than the majority population in the UK-based study (Van Cleemput et al. 2007) and reported more problems with mental health and "feeling low" (Goward et al. 2006). Data on

contributing factors such as life satisfaction, hopelessness or social support is lacking on both Roma adults and adolescents.

Life satisfaction refers to a subjective cognitive evaluation of overall quality of life (Diener and Diener 1995; Proctor et al. 2009); it is directly connected to the definition of health as provided by the WHO (WHO 2009). It is associated with happiness, achievement of a "good life", and (negatively) with depression (Proctor et al. 2009). A review of youth life satisfaction by Proctor et al. (2009) showed that life satisfaction among adolescents correlates positively with hope and parental support but negatively with smoking, substance use and many other risky behaviours, including physical fighting. Evidence on ethnic differences in life satisfaction is ambiguous; with some studies reporting clear ethnic differences (Huebner et al. 2004; Lackland 1998), but others reporting only small ethnic differences (Mata 2002; Proctor et al. 2009).

Social support can be defined as a feeling that an individual is beloved, cared for by and has assistance available from other people and that the individual is a part of a supportive social network. These supportive resources can be emotional, tangible, informational, or companionship. Social support can be measured as the perception that one has assistance available. Evidence indicates its importance as a central construct regarding health outcomes (Langford et al. 1997; Turner and Marino 1994). In our study, we conceptualise perceived social support as the perception that the aforementioned types of social support would be available from the supportive social network if needed (Manne 2003). Among both adults and adolescents social support is associated with positive health outcomes and negatively associated with health-endangering behaviour (Almeida et al. 2011; Klineberg et al. 2006). Klineberg et al. (2006) and Almeida et al. (2011) report ethnic differences in social support, with associations between social support and health characteristics being similar across different ethnic groups. Evidence on Roma is completely lacking, but social structures among them are generally strong (Goward et al. 2006). Several theories are available to explain the positive association of social support and health. Behavioural explanations are that social networks influence health behaviour, in part, because they "control" our health habits. In psychosocial explanations social support is seen as potentially having indirect effects on health through enhanced mental health, by reducing the impact of stress, or by fostering a sense of meaning and purpose in life. Supportive social ties may trigger physiological sequels (e.g. lowered blood pressure, heart rate, etc.) that are beneficial to health and minimise unpleasant arousal that instigates risky behaviour (Umberson and Karas Montez 2010).

Disadvantaged people are more likely to perceive themselves hopeless to change their situation and to improve their quality of life and well-being. Such hopelessness is a product of a key belief that the future will yield poor outcomes that one cannot influence and that trying to do so is not worthwhile (Farquharson 2002). Hopelessness correlates positively with depression, predicts suicidal ideation and attempts and psychopathology in general, and is negatively correlated with self-esteem and social skills (Kashani et al. 1989). Among adolescents, hopelessness is associated with higher levels of risky behaviour, violent behaviours and substance use, weaker motivation for learning and school activities, thus leading to more problems in school functioning and performance, and has links to inadequate problem solving skills (Bolland 2003; Farquharson 2002).

When sensitive topics, such as hopelessness and the quality of family relations, are surveyed, results may be confounded by respondent's tendency to answer in a socially desirable way (van deMortel 2008). Social desirability reflects the tendency on behalf of the subjects to deny socially undesirable traits and to claim socially desirable ones, and the tendency to say things which place the speaker in a favourable light (Nederhof 1985). Bardwell and Dimsdale (2001) cited several studies that reported ethnic differences in response bias and therefore such bias should be considered when assessing psychosocial variables by self-report.

Gender is another factor to be included in analyses of psychosocial characteristics as males and females have been shown to differ highly regarding such outcomes: e.g. studies on gender differences reported lower life satisfaction among girls (Goldbeck et al. 2007), higher hopelessness for boys (Park et al. 2010), and girls tend to report higher social support (Pouwelse et al. 2011). Such gender differences are likely to occur among Roma as well.

Disadvantaged living circumstances of Roma and indices of their worse health status pose a great challenge for their well-being and psychosocial adjustment. The aim of our study was to compare indicators of psychosocial well-being of Roma and non-Roma adolescents and to assess the impact of parental education, gender and social desirability on these differences. Practice-based evidence suggests that Roma adolescents should differ in the level of reported hopelessness, life satisfaction and social support. If Roma score poorer on these indicators of well-being, this may offer an explanation for their poorer health.

Methods

Procedure and respondents

The Roma sample was recruited in small towns and villages in the eastern part of Slovakia through elementary/

primary schools (6–15 years). Schools had to meet the following criteria: the number of children aged 13 years or older living in Roma settlements (segregated and separated type) was at least 30; the school was able to provide 3 or 4 separate rooms where interviews could be conducted without disruption; and the school provided an internal list of children suitable for our study who could then be randomly chosen and asked to participate in the interview. We contacted 22 elementary schools in municipalities in the study area that had separated or segregated Roma communities whose children could potentially attend schools. Out of these, 15 fulfilled our criteria and 14 of them were willing to participate. The schools provided us with the lists of pupils living in Roma settlements ($n = 420$), from which 331 (78.8 %) respondents were randomly chosen to fit daily capacity of the administrators to perform the interview. Selection was stratified by gender and one refused to participate. The respondents were interviewed individually during regular class time by community workers with background in social work who had ample experience working with Roma (2–4 years of community work in settlements) and were trained for our study. One hour was scheduled for each interview; the interviews lasted between 30 and 65 min. The proportion of pupils from the Roma settlements in the surveyed schools ranged from 50 to 100 %. Detailed data on ethnicity of the pupils are not available due to legal reasons. Roma pupils were not exclusively from eighth and ninth grades, because many Roma pupils repeated classes and pupils in requested age were found even in fifth grade.

According to Salner (2004), the average percentage of Roma pupils in primary education is 8.28 %. Almost two-thirds of Roma pupils repeated at least one grade. They are known to have problems with school attendance. This is probably an underestimation. Because of protection of personal data legislation, data on ethnic background may be collected only on the basis of self-identification. Most Roma pupils do not identify themselves as Roma and teachers' assignment of Roma ethnicity to pupils is considered discriminatory and thus not allowed.

We collected data on Roma and non-Roma in separate towns and villages to avoid interference due to the different way of data collection in these two groups. Because of the representativeness of both samples, we do not expect this to affect the results. Our non-Roma sample was drawn from areas without an obvious Roma community in the neighbourhood. This is typical for the vast majority of the majority pupils. The non-Roma sample was recruited from elementary/primary schools in the same geographical area. We identified 25 such schools in the Košice and Prešov regions of eastern Slovakia and contacted a random sample of 15 of them. Out of them, 11 schools were willing to participate, though two were excluded because they did not have at least one eighth and ninth grade class that had not previously been included in a research project of our department. The questionnaires were administered during regular class time (45 min) by our research assistants, who had training and experience. The questionnaire asked the same questions as the structured interview in the Roma sample.

The study was approved by the Ethics Committee of the Faculty of Science at P.J. Safarik University in Kosice in August 2005. Data were collected in May–June 2007. Parents were informed of the study via the school administration and could opt out if they disagreed. Participation in the study was fully voluntary and anonymous with no explicit incentives provided for participation.

The sample of Roma adolescents consisted of 330 Roma elementary school pupils, all of whom lived in Roma settlements (the segregated and separated types) in the eastern part of Slovakia, in or near small towns and villages (response 99.7 %). The sample comprised 160 boys (48.5 %) and 170 girls (51.5 %) with ages ranging from 12 to 17 years (mean = 14.50; SD = 1.03). The sample of non-Roma adolescents consisted of 722 elementary school pupils attending the eighth and ninth grades (response 95.9 %). The sample comprised 354 boys (53.2 %) and 312 (46.8 %) girls. Ages ranged from 14 to 17 years (mean = 14.86; SD = 0.63).

Measures

Our questionnaire covered demographic (age, gender) and socioeconomic characteristics (father's and mother's highest completed education, four levels of education were distinguished: elementary education, apprenticeship, secondary education with leaving certificate and university education); social desirability; and scales surveying perceived social support from the mother, father and significant others as well as hopelessness and life satisfaction. All scales were translated from the English original to Slovak by means of the forward–backward procedure.

Perceived social support from the mother, father and significant others was measured using adapted items from the 'Spouse/partner perceived social support' subscale (Turner and Marino 1994) and the 'Significant others' subscale items of the Multidimensional Scale of Perceived Social Support (Zimet et al. 1988). Items focused on aspects like closeness with respondent, availability for chatting with the respondent, expressing worth to the respondent, feeling relaxed when being together, being available when needed and confidence in the respondent. Mother's and father's social support subscales had six items each with the following response categories (values): fully agree (4), agree (3), disagree (2), fully disagree (1). The significant other's social support subscale had four

items, with answers ranging from very strongly disagree (1) to very strongly agree (7). A higher total score indicates a higher level of perceived social support from the person concerned. The internal consistencies of the scales were satisfactory: mother (Cronbach's alpha: Roma 0.74, non-Roma 0.86; mean inter-item correlation (MIIC): Roma 0.33, non-Roma 0.51), father (Cronbach's alpha: Roma 0.83, non-Roma 0.92; MIIC: Roma 0.46, non-Roma 0.66), significant others (Cronbach's alpha: Roma 0.59, non-Roma 0.81; MIIC: Roma 0.27, non-Roma 0.52).

Hopelessness was measured by the brief Hopelessness Scale for Children (Bolland 2003), which contains five items. The items were: "All I see ahead of me are bad things, not good things; There's no use in really trying to get something I want because I probably won't get it; I might as well give up because I can't make things better for myself; I don't have good luck now and there's no reason to think I will when I get older; I never get what I want, so it's dumb to want anything." Answers were dichotomous (values): agree (1), disagree (0). Sum scores varied from 0 to 5 and could be treated as a continuous variable. Higher total score indicates a higher level of hopelessness. The internal consistency of the scale was satisfactory (Cronbach's alpha: Roma 0.59, non-Roma 0.75; MIIC: Roma 0.23, non-Roma 0.38).

Life satisfaction was measured with the Satisfaction with Life scale developed by Diener et al. (1985). It is a 5-item measure (examples: The conditions of my life are excellent. I am satisfied with my life.) with answers (values) ranging from strongly disagree (1) to strongly agree (7). A higher total score indicates higher life satisfaction. The internal consistency of the scale was satisfactory (Cronbach's alpha: Roma 0.73, non-Roma 0.89; MIIC: Roma 0.36, non-Roma 0.61).

Social desirability is the tendency of respondents to reply in a manner that will be viewed favourably by others. Higher social desirability thus can affect the validity of the results. It was measured using the Social Desirability Response Set (SDRS-5) (Hays et al. 1989). The scale inquires about common situations in which people are prone to respond favourably (e.g.: "No matter who I'm talking to, I'm always a good listener"). The five items are then rated with a five-point Likert scale (definitely true, mostly true, don't know, mostly false, definitely false). The total score is counted only from the extreme answers of each item (scored 1 point), with a higher total score indicating a higher level of socially desirable responses. Cronbach's α for the current sample was 0.53, but the mean inter-item correlation was 0.19. According to Briggs and Cheek (1986), Clark and Watson (1995) and Parker et al. (2003) homogeneity of a scale is acceptable if the MIIC is above 0.15 in case of measuring broad constructs such as social desirability (Cronbach's alpha: Roma 0.42, non-Roma 0.44; MIIC: Roma 0,13, non-Roma 0,14).

Statistical analysis

As a first step we computed baseline statistics (prevalence rates and means) for the background characteristics and psychosocial characteristics of Roma and non-Roma adolescents. We tested the statistical significance of the differences between them by computing Chi-square tests for categorical variables and *t* tests for continuous variables. Interrelations of continual variables were assessed using Pearson correlation. Next, linear regression analyses were used to assess whether ethnic differences in psychosocial characteristics could be explained by gender, SES or social desirability. We used four models for the explanation of the ethnic differences in psychosocial characteristics. Model 1 tested the crude effect of ethnicity on outcome variables; in Model 2 we added gender, in Model 3 SES, and in Model 4 social desirability to the previous variables. In addition, we assessed the influence of the individual social supports on ethnicity effect on hopelessness and on life satisfaction using linear regression.

All analyses were performed using the statistical software SPSS 16.0 for Windows.

Results

Roma parents are more frequently low-educated than non-Roma (Table 1). In general, this reflects the situation in Slovakia. Table 1 also shows that Roma adolescents reported significantly more social support from their mother and from father, more hopelessness, and more life satisfaction. Non-Roma adolescents reported more perceived social support from significant others. Roma adolescents reported a significantly higher tendency to answer in a social desirable way. Table 2 presents Pearson correlation coefficients of outcome variables.

Our analyses showed that ethnicity had a significant effect on all of the assessed outcomes (Model 1). The strongest associations and highest explained variances were found for life satisfaction and for social support from the father, the weakest for hopelessness, with levels all being higher for Roma (gender-adjusted standardised betas from 0.196 to 0.366 $p < 0.001$) (see Table 2). Gender did not affect the ethnicity effect (Model 2). Parental educational attainment affected the ethnicity effect in all outcomes except life satisfaction. Adjustment for parental education resulted in an increase in the ethnic differences in social support from the mother and father, but a decrease in the ethnic differences in social support from significant others and in hopelessness (Model 3). Finally, social desirability affected the size of the ethnic differences for all outcomes except hopelessness. Adjustments for social desirability decreased the measured ethnic differences for mother and father social support and life satisfaction, but increased the ethnic differences in social support from significant others

Table 1 Sociodemographic characteristics (numbers and percentages), psychosocial determinants and sensitivity for social desirability of the Roma and non-Roma samples in Eastern part of Slovakia in 2007

Categorical variables	Roma		Non-Roma		Value of statistic	*p* value
	N = 330	%	*N* = 722	%		
Gender (*N*; %)						
Boys	160	48.5	354	53.2	1.9[a]	Not significant[a]
Girls	170	51.5	312	46.8		
Father's education (*N*; %)						
Elementary	169	54.2	18	2.6	499.8[a]	<0.001[a]
Apprenticeship	116	37.2	144	21.2		
Secondary	20	6.4	328	48.2		
University	7	2.2	190	27.9		
Mother's education (*N*; %)						
Elementary	231	74.3	32	4.6	603.2[a]	<0.001[a]
Apprenticeship	62	19.9	114	16.5		
Secondary	16	5.1	340	49.1		
University	2	0.6	206	29.8		
Parents' highest education (*N*; %)						
Elementary	154	47.8	9	1.3	597.0[a]	<0.001[a]
Apprenticeship	132	41.0	82	11.6		
Secondary	28	8.7	338	47.9		
University	8	2.5	277	39.2		

Continual variables	Mean (SD)	Range	Mean (SD)	Range		*p* value
Perceived social support (mean (SD))						
Mother	21.08 (2.77)	6–24	20.18 (3.37)	6–24	−4.487[b]	<0.001[b]
Father	20.77 (3.24)	6–24	18.72 (4.57)	6–24	−8.126[b]	<0.001[b]
Significant other	24.03 (4.07)	4–28	24.60 (3.71)	4–28	2.169[b]	<0.05[b]
Hopelessness (mean (SD))	1.29 (1.35)	0–5	0.73 (1.24)	0–5	−6.436[b]	<0.001[b]
Life satisfaction (mean (SD))	28.79 (6.48)	5–35	23.05 (8.07)	5–35	−11.893[b]	<0.001[b]
Social desirability (mean (SD))	2.17 (1.29)	0–5	1.00 (1.08)	0–5	−14.159[b]	<0.001[b]

[a] Chi-square tests

[b] *T* test

In the table only valid percentages are presented. Missing cases for each variables are as follows: *gender* 0 % Roma, 7.8 % non-Roma; *father's education* 5.5 % Roma, 5.8 % non-Roma, *mother's education* 5.8 % Roma, 4.2 % non-Roma, *Parents' highest education* 2.5 % Roma, 2.2 % non-Roma, *father's employment status* 10.9 % Roma, 10.0 % non-Roma, *mother's employment status* 12.7 % Roma, 5.5 % non-Roma, *social desirability* 0.9 % Roma, 7.1 % non-Roma

(Model 4). After all adjustments the ethnic differences remained statistically significant for all outcomes, with the same position for Roma as in the crude analyses but with smaller differences for most outcomes.

Finally, adding social support to the already included explanatory variables did not affect ethnic differences regarding either hopelessness or life satisfaction (Table 3).

Discussion

Roma adolescents reported more hopelessness but also more social support from their parents and a higher life satisfaction. Parental educational attainment and social desirability affected the ethnicity effect in a significant way. Ethnic differences in social support, hopelessness and life satisfaction remained significant, however, after adjustment for gender, parental education and social desirability. Psychosocial determinants of health thus differ by ethnicity, with those differences being partially associated with parental education attainment and social desirability (Table 4).

Our findings confirm those of Lackland (1998) and Huebner et al. (2004), all of whom showed differences in life satisfaction between ethnic groups of similar size, whereas others (Mata 2002; Proctor et al. 2009) found only weak relationships. Moreover, our finding shows

Table 2 Pearson correlation coefficients of continual variables in our study among Roma and non-Roma adolescents in Eastern part of Slovakia in 2007, presented separately for ethnic groups

	2	3	4	5	6
Roma					
Perceived social support					
Mother (1)	0.51**	0.22**	−0.21**	0.38**	0.27**
Father (2)		0.26**	−0.12**	0.28**	0.21**
Significant other (3)			−0.04	0.05	0.11
Hopelessness (4)				−0.15**	−0.03
Life satisfaction (5)					0.15**
Social desirability (6)					
Non-Roma					
Perceived social support					
Mother (1)	0.45**	0.37**	−0.22**	0.18**	0.21**
Father (2)		0.28**	−0.14**	0.11**	0.13**
Significant other (3)			−0.16**	0.11**	0.19**
Hopelessness (4)				−0.20**	0.00
Life satisfaction (5)					0.08
Social desirability (6)					

significant ethnic differences among adolescents regarding types of social support and hopelessness. This has not been reported previously, maybe because these differences have not been examined in any previous study. This finding thus requires confirmation by other studies.

The role of parental education attainment in the causal path from ethnicity to the outcomes that we assessed is consistent with the available evidence (Mata 2002; Turner and Marino 1994), but in our study parental education attainments, or SES, is not a major predictor, as it was in those studies (Mata 2002; Turner and Marino 1994). Ethnicity was the main predictor of the outcomes in our study. SES is often an important component of ethnic differences (Reijneveld 1998), partially because research on ethnic differences tends to focus on deprived ethnic groups (Reijneveld 2010). Parental education, as a proxy measure of SES in our study mediated ethnicity effect on outcome variables. A similar mediation of SES and Roma health was found by Voko et al. (2009) and by Kolarcik et al. (2009) regarding health-endangering behaviour.

Moreover, we found social desirability to be a confounder regarding ethnic differences, confirming the findings of van deMortel (2008). Apparently, the assessment of sensitivity for social desirability deserves more attention in research on ethnicity and health, probably with highly discriminated groups such as Roma being particularly sensitive to it (Bardwell and Dimsdale 2001).

We found different levels of social support among Roma and non-Roma adolescents, confirming the findings of Klineberg et al. (2006) who reported differences in social support between several ethnic groups. Our results suggest that the immediate family provides most support among Roma adolescents, which is in line with the evidence of Goward et al. (2006). Among Roma adolescents, parental social support was higher even though in general social support from high-educated parents tends to be higher (Turner and Marino 1994), and the Roma parents in the study were very low-educated. The high levels of social support and life satisfaction among Roma adolescents are also a surprise, because these levels have been shown to be rather low among Roma adults (Goward et al. 2006; Van Cleemput et al. 2007). Roma obviously have a different relationship with their parents than non-Roma. Their relationship is much closer and parents are perceived as caring much. This difference might be attributed to the cultural background of Roma. Life satisfaction among Roma is related with social support and this can protect them from a negative impact of higher hopelessness due their living circumstances. Among non-Roma the relationship of social support and life satisfaction is much weaker. Their life satisfaction may be affected by other variables out of the scope of our study.

Interestingly, we found a combination of higher hopelessness and higher life satisfaction among Roma adolescents, which contrasts with the findings of Proctor et al. (2009) that life satisfaction correlates positively with hope, and also contradicts the findings of Chioqueta and Stiles (2007) in which hopelessness tends to correlate negatively with psychological buffers. This may be due to Roma adolescents having a different perception of sources in living circumstances that affect particular aspects of adolescents' well-being separately, e.g. disadvantage may not be perceived by Roma themselves to be so bad as to impact their well-being negatively. A similar combination of high hopelessness and high life satisfaction was not reported in other studies. Higher hopelessness among Roma might be attributed to their disadvantaged context, i.e. living in segregated and separated settlements. Disadvantaged people are more likely to be hopeless regarding their potential to change their situation and to improve their quality of life and well-being (Bolland 2003; Farquharson 2002). Another explanation of the higher hopelessness among Roma adolescents may be the discrimination that Roma face in Europe. According to the EU-MIDIS report (European Union Agency for Fundamental Rights 2010), Roma are the most discriminated group in Europe, which might lead to this effect. Roma from settlements might be seen as just such an example. Roma deviate from the general picture on the causal pathway of SES differences in life satisfaction, social support and hopelessness.

Table 3 Effect of ethnicity on psychosocial determinants between Roma and non-Roma adolescents adjusted for gender, parental education attainment and social desirability in four models: standardised regression coefficients (B), 95 % confidence intervals (CI), and change standardised regression coefficients (B) because of the adding the variable concerned (data collection: Eastern part of Slovakia in 2007)

	Mother perceived social support		Father perceived social support		Significant other perceived social support		Hopelessness		Life satisfaction	
	B (95 % CI)	B change (%)	B (95 % CI)	B change (%)	B (95 % CI)	B change (%)	B (95 % CI)	B change (%)	B (95 % CI)	B change (%)
M1										
Roma ethnicity	0.84 (0.42|1.26) ***		1.92 (1.36|2.48)***		−0.75 (−1.26|−0.24)**		0.53 (0.36|0.71)***		6.14 (5.10|7.19)***	
M2										
Roma ethnicity	0.84 (0.42|1.26)***	0.0	1.94 (1.38|1.50)***	1.0	−0.80 (−1.30|−0.30)**	6.7	0.54 (0.36|0.71)***	1.1	6.14 (5.09|7.19)***	0.0
Male gender	0.05 (−0.35|0.45)		0.43 (0.11|0.97)		−1.45 (1.92|−0.97)***		0.03 (−0.13|0.20)		−0.30 (−1.31|0.71)	
M3										
Roma ethnicity	**1.31 (0.66|1.95)*****	55.9	**2.69 (1.81|3.57)*****	38.7	**−0.45 (−1.23|0.33)**	−43.8	**0.35 (0.08|0.62)***	−35.2	6.21 (4.55|7.87)***	1.1
Male gender	0.06 (−0.34|0.45)		0.43 (−0.10|0.97)		−1.45 (−1.92|−0.97)***		0.04 (−0.13|0.20)		−0.32 (−1.33|0.69)	
Parents' education										
Elementary	0 (reference)		0 (reference)		0 (reference)		0 (reference)		0 (reference)	
Apprenticeship	0.01 (−0.65|0.67)		0.02 (−0.88|0.92)		0.02 (−0.78|0.82)		**−0.40 (−0.68|−0.12)****		1.00 (−0.66|2.66)	
Secondary	0.32 (−0.49|1.12)		0.92 (−0.18|2.01)		0.41 (−0.57|1.38)		−0.30 (−0.64|0.04)		−0.03 (−2.08|2.02)	
University	**0.91 (0.07|1.76)***		1.07 (−0.08|2.23)		0.51 (−0.52|1.53)		**0.51 (−0.87|−0.15)****		1.00 (−1.16|3.16)	
M4										
Roma ethnicity	**0.59** (−0.07|1.25)*	−54.9	**2.09** (1.18|3.01)***	−22.3	**−1.05** (−1.86|−0.24)**	133.3	0.35 (0.06|0.63)*	0.0	**5.46** (3.72|7.21)***	−12.1
Male gender	0.12 (−0.268|0.51)		0.48 (−0.52|1.01)		−1.39 (−1.86|−0.92)***		0.04 (−0.13|0.20)		−0.23 (−1.24|0.78)	
Parents' education										
Elementary	0 (reference)		0 (reference)		0 (reference)		0 (reference)		0 (reference)	
Apprenticeship	0.04 (−0.61|0.69)		0.08 (−0.81|0.97)		0.05 (−0.74|0.84)		−0.40 (−0.68|−0.12)**		1.05 (−0.61|2.70)	
Secondary	0.38 (−0.41|1.16)		0.98 (−0.11|2.06)		0.46 (−0.50|1.43)		−0.30 (−0.64|0.04)		0.15 (−2.03|2.06)	
University	0.92 (0.09|1.74)		1.09 (−0.05|2.23)		0.51 (−0.50|1.53)		0.51 (−0.87|−0.15)**		0.99 (−1.16|3.14)	
Social desirability	**0.60 (0.43|0.77)*****		**0.50 (0.26|0.73)*****		**0.51 (0.30|0.71)*****		0.00 (−0.07|0.07)		**0.60 (0.15|1.04)****	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

B change difference in B coefficient in percents

Table 4 Additional assessment of social supports from various sources regarding the degree to which they influenced the association of ethnicity with hopelessness and life satisfaction

	Hopelessness		Life satisfaction	
	B (95 % CI)	B change (%)	B (95 % CI)	B change (%)
M4				
Roma ethnicity (adjusted as in M4)	0.35 (0.06|0.63)*	0.0	5.46 (3.72|7.21)***	0.0
M5				
Roma ethnicity (M4, adjusted for father social support)	0.40 (0.12|0.71)**		5.02 (3.22|6.82)***	
Roma ethnicity (M4, adjusted for mother social support)	0.43 (0.14|0.71)**		5.12 (3.39|6.84)***	
Roma ethnicity (M4, adjusted for significant others social support)	0.32 (0.03|0.60)*		5.59 (3.84|7.34)	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Assessment of the influence of the association of ethnicity with hopelessness and life satisfaction, adjusted for social support from various sources: standardised regression coefficients (B), 95 % confidence intervals (CI), and change standardised regression coefficients (B) because of the adding the variable concerned (data collection: Eastern part of Slovakia in 2007)

R2 change variance change of the model compared to the previous model

Strengths and limitations

We were successful in recruiting a considerable number of Roma adolescents and in achieving high response rates among both Roma and non-Roma samples, even though the Roma population is considered to be a hard-to-reach population. A second strength of our study is that we employed only standardised scales and measures that have been used frequently in a wide range of research settings.

A limitation of our study may be the different way of data collection among Roma and non-Roma sample (interviews vs. questionnaires). This different approach might have affected the level of disclosure and could have resulted in higher social desirability rate among Roma adolescents (Bowling 2005). We could adjust for this in our analyses, but cannot exclude some bias due to this. Also internal consistency of the measures differed between samples. The differences and lower values of internal consistency measures might be solved by piloting.

Furthermore, our sample was representative for Roma adolescents who live in settlements and attend regular schools. This comprises the most substantial part of the Roma living in eastern Slovakia (and as such, Central Europe). Generalisation of our findings to other groups of Roma adolescents, such as integrated Roma living in cities, should be done with caution, however, because Roma communities vary in terms of regional settlement patterns, integration levels, economic and social development and health (Filadelfiová et al. 2007).

Implications

Our findings show a need to address the hopelessness of Roma adolescents, which also bears important risks for depression later in life. Moreover, sustaining the levels of social support and life satisfaction among Roma adolescents deserves attention as well.

Future studies should focus in particular on replicating and explaining the combination of high hopelessness and of high life satisfaction and family support that we found. Such studies should also consider potential mechanisms that lead to the associations between those factors among Roma adolescents that seem to differ from those among other groups. Such considerations may significantly add to the evidence on both ethnic differences in psychosocial health and on the underlying pathways.

Conclusion

We found significant differences in the levels of social support, life satisfaction and hopelessness between Roma and non-Roma adolescents; we found that Roma are more hopeless but more satisfied with life and have higher social support from parents. Roma ethnicity proved to be a significant predictor of the outcomes mediated by parental education attainment and confounded with social desirability. Roma adolescents thus seem to be hopeless but also happy with life and beloved by their parents.

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